

## **EPCAMR: BUILDING COALITIONS THROUGH PARTNERSHIPS IN THE EASTERN PA COALFIELDS**

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### **ABSTRACT**

PA has a \$15 billion AML problem with over 280,000 acres of AML and 3500 stream miles impacted by AMD. The public has little knowledge of reclamation or remediation techniques available to treat AMD and reclaim AML. EPCAMR provides nearly 60 watershed organizations alone, in Eastern PA, continued support, technical assistance, grant writing assistance, equipment, monitoring and education programs, legal assistance, funding for assessments or implementation of pilot-scale AMD treatment systems.

For the last four years EPCAMR, in partnership with the Western PA Coalition for Abandoned Mine Reclamation (WPCAMR) and funding from the PA DEP-Office of Mineral Resources Management (PA DEP-MRM), to administer a small, but, successful mini-grants program, called the EPCAMR RWSI. The goal of the program is to help new groups organize and assist experienced groups in their efforts to restore watersheds impacted by AMD/AML, through sustainable community-led watershed partnerships, and related reclamation/remediation projects. Robert E. Hughes, EPCAMR Regional Coordinator developed the Eastern PA program, in conjunction with the WPCAMR Regional Coordinator from scratch in 1997, based on the needs of local groups working on AMD/AML issues.

Examples of the types of watershed improvement projects funded have included: Land Reclamation Projects, Water Monitoring, Organizational Support, Education, Design & Engineering, Implementation of Abatement Measures, Teacher Workshops, Conferences, and Community Meetings. Grants are awarded up to \$5000 each, requiring a 20% local match, contributed either in donated services, other grants, or cash.

EPCAMR Regional Coordinator will discuss how EPCAMR leveraged \$50,000 from the PA DEP-MRM and turned it into \$380,000 to complete 11 projects in 2001-2002. Over the last 4 years, EPCAMR has completed 49 projects, through building successful partnerships, with only \$200,000 from the PA DEP-MRM and turned it into nearly \$2 Million in matching funds by "Inviting the Public IN" to work on watershed reclamation/remediation projects.

16 County Conservation Districts in Eastern PA support EPCAMR. EPCAMR provides technical assistance to over 60 organizations throughout the region. EPCAMR has maintained a diverse board membership over the last 6 years. The regional non-profit organization is made up of community watershed organizations, Anthracite coal operators, the Anthracite Region Independent Power Producers Association, the PA Anthracite Council, Co-Generation facilities, conservancy groups, and other regional non-profits.

### **ABANDONED MINE RECLAMATION & AMD REMEDIATION**

EPCAMR provides the following services to groups:

- Grant Writing Assistance, Administration, Coordination
- Project Technical Assistance related to Passive Treatment Designs & Engineering for the Abatement of AMD
- State-wide Conference Coordination on AMD/AMLR
- Teacher Training and Water Quality Monitoring Workshops
- Watershed Assessments, Comprehensive Reclamation Plans
- Scholarships and Grant Funding
- Education and Outreach Opportunities, Media Events; and
- AMD/AMR Field Tours in the Anthracite Coal Fields

### **EPCAMR REGIONAL WATERSHED SUPPORT INITIATIVE GRANT PG**

The goal of the EPCAMR RWSI Grant PG is to restore watersheds impacted by AMD & AML through the development of sustainable community-led watershed organizations, coalitions, partnerships, environmental action, and related reclamation, remediation, and environmental education projects. The PG has been a cooperative effort between EPCAMR, WPCAMR, PA DEP Bureau of Mineral Resource Management, and the PA DEP Bureau of Watershed Management-Section 319 PG for the last 4 years.

### **MEETING THE COMMUNITY NEEDS OF WATERSHEDS IMPACTED BY AMD/AML**

EPCAMR funds the following type of community projects in the region:

- Water Quality Improvement/Land Reclamation Projects
- Water Monitoring or Sampling
- Organizational Support–legal fees, public meeting facility rentals, part-time personnel, office supplies, equipment purchases, etc.
- Student & Teacher Training Workshops
- Watershed Conferences, Meetings, Forums

- Implementation of AMD Abatement Measures –Passive Treatment Systems, i.e., Diversion Wells, OLCs, ALDs, OLDs, Wetlands, SAPS; and
- Project Development –Design & Engineering

## **EPCAMR RWSI PG**

EPCAMR Criteria for supporting reclamation and remediation projects are as follows:

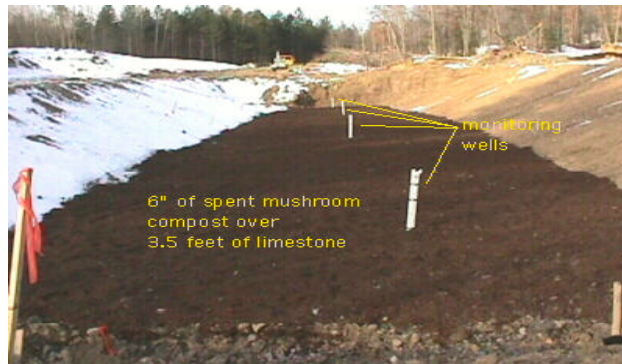
- Up to \$5000 maximum for individual grants available
- Minimum of 20% local match is required
  - in-kind services, volunteer time, donated professional services, other grants, or cash match
- Projects need to be completed within 1 year
- Diverse partnerships are encouraged to achieve integration of all parties interested in AMR
- Projects must involve abandoned mine reclamation, AMD remediation, watershed restoration, or education & outreach within the local communities affected
- Simple 4 Page Grant Application including a Budget Sheet; and
- Regional Coordinator Available to Help Prepare Applications

## **LIST OF PROJECT SUPPORTED UNDER THE EPCAMR RWSI PG IN 2001-02**

- Shamokin Creek Restoration Alliance's Carbon Run Watershed AMD SAPS Construction of (Site 42)
- Lackawanna River Corridor Association's Legget's Creek Greenway/Rail Trail Corridor AML Restoration
- Schuylkill Headwaters Association's Rhoersville AML Pit Stream Restoration & Relocation Project
- Huber Breaker Preservation Society Formation & Restoration
- Schuylkill County Conservation District's AMD/AML Bear Creek Watershed Awareness Festival
- Wyoming Valley Watershed Coalition's Streamside AMD/AML Cleanup
- Hicks Creek Watershed Association Formation
- Wildlands Conservancy's Luasanne Tunnel Aerobic Wetlands Construction
- Earth Conservancy's Abandoned Mine Reclamation Brochure
- Coordination of the 4<sup>th</sup> Annual State-wide Conference on AMD/AMR
- Luzerne Conservation District's 2-Day Teacher Training Workshop/Field Tour on AMD/AMR

## **CARBON RUN WATERSHED AMD SAPS CONSTRUCTION OF (SITE 42)**

SCRA and the Northumberland County Conservation District placed 60 T of mushroom compost to the Carbon Run (Site 42) Successive Alkalinity Producing System (SAPS) Vertical Flow Wetlands Treatment System in the Shamokin Creek Watershed. SCRA volunteers assisted in the spreading of the compost evenly and members of the Northwest Cadets Juvenile Probation Center assisted in rock moving and placement. SCRA fabricated and installed a new influent pipe that passed the pre-treated AMD over a larger, more evenly distributed surface area reducing the previous problems of concentrated flows to a single area within the SAPS. Site 42 is used as an educational facility, with signs posted explaining how the AMD is treated using the SAPS, for

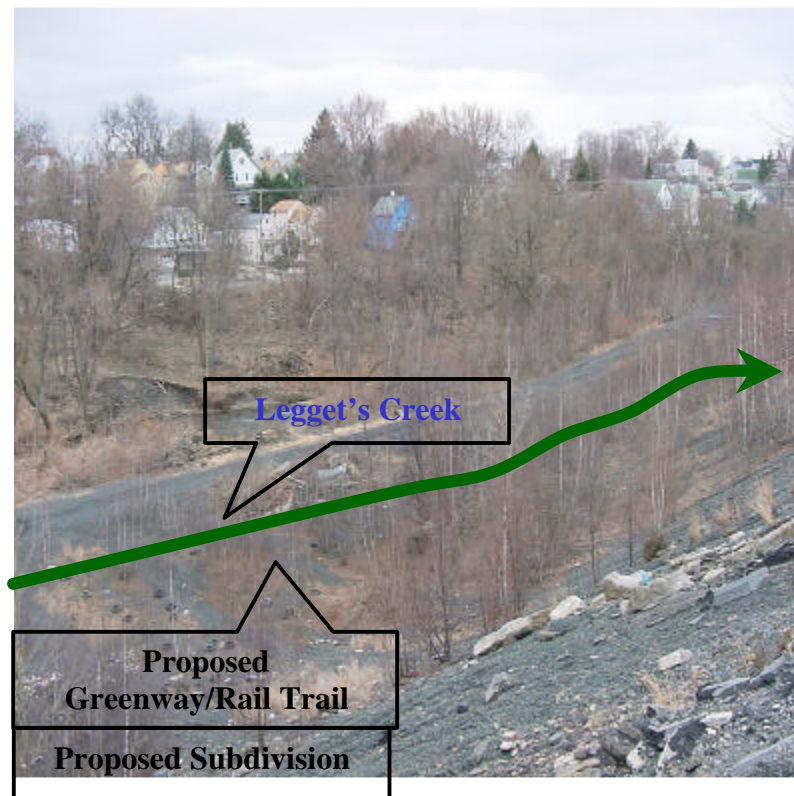


#### Site 42 SAPS

tours of local high schools, community groups, and Bucknell University college students.

### LACKAWANNA RIVER CORRIDOR ASSOCIATION'S LEGGET'S CREEK GREENWAY/RAIL TRAIL CORRIDOR AML RESTORATION

The project area consumes a 40 acre land reclamation project in N. Scranton along a ½ mi. reach of Legget's Creek; Lackawanna River's 4th largest tributary. LRCA is working with LVC, City of Scranton, Marvine/Dutch Gap Little League, LSEC, and the Polish National Union to provide volunteers for the planting of the greenway and LL&E plans to develop a 68-lot single-family moderate-income subdivision on the former AML site. LRCA purchased additional topsoil amendments and blended it with composted woodchips from the Lackawanna County Recycling Ctr to amend the soil along the Leggett's Creek and to create planting pits for trees and shrubs purchased with a USFS grant.



**Legget's Creek Greenway/Rail Trail Corridor**



**SCHUYLKILL HEADWATERS ASSOCIATION'S RHOERSVILLE AML STRIPPING  
PIT STREA, RESTORATION & RELOCATION**



**1st Photo-AMD in the Pit; 2<sup>nd</sup>-Anthracite Bottom Rock Syncline; 3<sup>rd</sup>-Area Where Stream Flows into the Pit Prior to Project; 4<sup>th</sup>-Pipe Installed to Divert Water; 5<sup>th</sup>-SHA member stands in the newly constructed stream diversion channel; 6<sup>th</sup>-Newly restored stream channel flowing away from the Rhoersville Stripping Pit**

## **RHOERSVILLE AML STRIPPING PIT STREA, RESTORATION & RELOCATION**

Schuylkill Headwaters Association addressed a major NPS problem at an AML site in the Heckschersville Valley, known as the Rhoersville AML Stripping Pit. A major headwater tributary to the W. Branch of the Schuylkill River flowed directly into the pit and into the underground mine workings before surfacing as AMD at the Oak Hill Outflow, which flows at ~10-15,000 gpm within a ½ mile from the point at which the water is lost. SHA, Reading Anthracite Company, Schuylkill County Conservation District, EPCAMR, ICI Explosives USA, PA DEP Pottsville DMO, Minersville Water Authority installed pipes across a haul road and relocated the stream that was flowing into the pit restoring a 800' stream channel to divert the flow from entering the Rhoersville Pit. Flows have been reduced at the Oak Hill Outflow, allowing dissolved iron, manganese, and aluminum to precipitate out more quickly, and there are now plans to construct a sizable wetlands to treat the AMD in the vicinity of the Oak Hill Outflow in the Village of Duncott. SHA and the PA DEP BAMR continue to monitor the outflow.



**Oak Hill AMD Outflow to the West Branch of the Schuylkill River**

## **FORMATION OF THE HUBER BREAKER PRESERVATION SOCIETY & AML RESTORATION**

HBPS developed and produced 2/4 quarterly newsletters and a full-color brochure to highlight potential projects around the Huber Breaker. A 6.5 acre AML site surrounds the largest standing functional Anthracite Coal Breaker in the Wyoming Valley. Plans are to restore the Huber Breaker into a museum and historic visitor center. The Huber Breaker, as a tourist attraction ties into the Delaware & Lehigh National Heritage Corridor Trail System. HBPS has also acquired a computer system through EPCAMR to help them in building the internal capacity of the organization through membership drives, grant writing, and managing newsletter mailing lists and databases. HBPS provides tours to many groups to sell them on the vision that they see for the Breaker while raising funds for its restoration at the same time.



**Huber Breaker**



## **WYOMING VALLEY WATERSHED COALITION'S STREAMSIDE AMD/AML CLEANUP**

Thanks to 305 volunteers...4 streams, and a 6-acre AML site along a 15-mile corridor along the Susquehanna River were cleaned up within 4 months. 8 Tons of trash and other debris, 10.5 Tons of tires (1056 tires)-May 2002. 3 Tons of trash and 3 Tons of white goods. 2 Tons of tires (200 tires)-August 2002. EPCAMR funded the disposal of the trash, white goods, & tires; The PA Environmental Council produced a quarterly newsletter and a website for outreach and notification of projects was created ([www.wvwc.org](http://www.wvwc.org)). Partners in the Cleanups were the Luzerne Conservation District, Nanticoke Conservation Club, EPCAMR, PEC, Wyoming Valley Sanitary Authority, Earth Conservancy, PA DEP, Hicks Creek Watershed Association, PA Gas & Energy, PA Power & Light, Wilkes University, Luzerne County Community College, Plymouth Twp., Larksville and Plymouth Boros.



**Abandoned Tire Piles in the 6 acre AML Pit Which EPCAMR hopes to reclaim into a community playground and recreation area in Plymouth Township**

**175 Wilkes University Freshman Students, LCD, Plymouth Twp., EPCAMR, and children from the Avondale Hill Residential Community in Plymouth Twp. assisted with the cleanup of the AML Site in August 2002**



## **WYOMING VALLEY WATERSHED COALITION'S STREAMSIDE AMD/AML CLEANUP**



**Garbage and Debris Litter the 6 acre AML Site, but that didn't stop Hayley Hughes from getting rid of the tires in the rain one by one.**



**118 Tires were removed from the Honey Pot Outfall in Nanticoke, however these kids who also participated in the cleanup came up with the name Stinky Potty Outfall instead**

## **FORMATION OF THE HICKS CREEK WATERSHED ASSOCIATION**

HCWA raises community awareness of issues facing the watershed through monthly newsletters and cleanups. A 60 acre AML culm bank fire was just recently extinguished by the federal OSM. Many of the community members came to the HCWA for answers to questions about the culm bank fire and about the recent restoration efforts in the watershed. 6 Tons of trash was removed from the watershed in April of 2002. A full color organizational brochure was printed to distribute to the public to keep them up to speed on watershed activities and environmental action projects. Water testing kits were purchased to assist HCWA in developing a volunteer stream monitoring PG. Legal fees to support the group in its approval from the IRS



to become a 501©(3) non-profit organization were also a part of the RWSI Grant. EPCAMR provided the office supply funds as well for postage and mailing costs to allow the HCWA to reach the members within the watershed in its first few years without having to worry about raising the organizational funds up front. EPCAMR and the Luzerne Conservation District also assisted the group in preparing a watershed assessment grant that was recently funded by the PA DEP Growing Greener Grants PG.



**The 60-acre “Black Desert” Culm Bank Fire and volunteers along with EPCAMR Coordinator (green shirt) and the PA DEP Secretary, Dave Hess (blue jacket) and the “Oven Rollers” during the cleanup in April 2002**

#### **WILDLANDS CONSERVANCY’S LUASANNE TUNNEL AEROBIC WETLANDS CONSTRUCTION AND REMEDIATION SYSTEM**

WC will construct a 1.5 acre aerobic vertical flow wetlands complex on Lehigh Gorge State Park property to treat the Luasanne Tunnel AMD (~ 4600 gpm) which flows into the Nesquehoning Creek and then onto the Lehigh River. Water monitoring will be conducted to gauge the success of the wetlands and tours will be conducted to educate the public. The project hit a snag this summer when the PA Historic Museum Commission found significant cultural resources and the wetlands design had to be modified by the PA DEP BAMR. Partners in the project include the PA DEP BAMR, EPCAMR, PA DEP BMR, PA DCNR, PA DEP BWM-Section 319 PG, Carbon County Conservation District, C&S Railroad, Lehigh River Stocking Association, Ducks Unlimited, and Parkland HS Lehigh River Watch Education PG. EPCAMR funded the final portion of the grant funds that were needed to complete the construction of the aerobic wetlands treatment system.



**Luasanne AMD Tunnel**

## **EARTH CONSERVANCY'S ABANDONED MINE RECLAMATION BROCHURE**

EC produced a full-color informational brochure on AML and reclamation in the Wyoming Valley. Various methods of abandoned mine reclamation are discussed, impacts on the local communities, economic, social, and environmental benefits are presented. Examples of reclamation projects are showcased in the brochure from throughout the Wyoming Valley in northeastern PA. Since 1992, EC has reclaimed over 800 acres of AML in partnership with the PA DEP-BAMR, PA DEP, US DOI-OSM, and EPCAMR.



**The Avondale Hill Stripping Pit (left) and the Wadesville Active Stripping Pit Operation (right) are just two examples of the effects of past mining practices and future reclamation**

## **COORDINATION OF PA'S 4<sup>th</sup> ANNUAL STATE-WIDE CONFERENCE ON AMD/AMR**

EPCAMR provided funds to the PA Organization for Watersheds and Rivers to offset the facility rental costs of the 2-day event held at the Penn-Stater Conference Ctr, State College, PA. POWR handled the Conference registration and was a member of the planning committee. Around 200 people were in attendance. 45 Exhibitors. 24 speakers. The EPCAMR Regional Coordinator served as Chair of the 2002 Conference. Co-sponsors and the Planning Committee included WPCAMR, WPC, PA DEP-BMR, PA DEP-BWM-Section 319, PA DEP OPPCA, WPWPP, EPA, OSM, CVI, KBA, SRBC, CC, and the LCD. A local bluegrass band from the Southern Anthracite Coalfields in Dauphin County, the "Wiconisco Creek Pickers" entertained the attendees. St. Vincent's College, using recycled iron oxide pigment from AMD to give away free t-shirts to all who attended the Conference, conducted a tie-dye t-shirt workshop. Finally, an AMD In A Jar Contest for Best Looking AMD from Across PA was held to lighten up the last session of the Conference on the second day.



**COORDINATION OF PA'S 4<sup>th</sup> ANNUAL STATE-WIDE CONFERENCE ON AMD/AMR**



**EPCAMR Display at the 2002 PA AMD/AMR Conference and CVI, EPCAMR, WPCAMR representative field questions during a panel session**

**COORDINATION OF PA'S 4<sup>th</sup> ANNUAL STATE-WIDE CONFERENCE ON AMD/AMR**

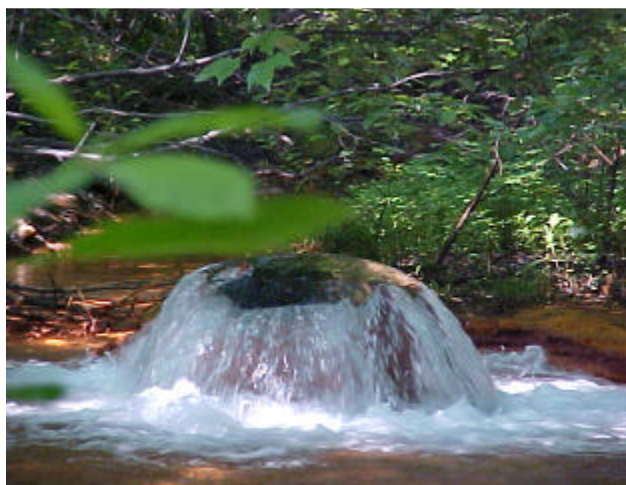
**AMD Tye-Dye T-shirt, AMD in a Jar Across PA Judging, and the "Crick Pickers"**





## **LUZERNE CONSERVATION DISTRICT'S 2-DAY TEACHER TRAINING WORKSHOP/FIELD TOUR IN LUZERNE COUNTY ON AMD/AMR**

The LCD Environmental Ed. Coordinator and EPCAMR conducted a countywide teacher-training program in Luzerne County. 12 public school districts involved. 9/12 are directly impacted by AMD/AML. The Luzerne Intermediate Unit # 18 approved ACT 48 continuing education credits for the workshop for 12 credit hours. 24 teachers anticipated to attend; LCD to run the workshop twice before Summer 03'. A Field Tour of AMD sites, AML reclamation sites, reclaimed AML Projects and AMD remediation projects, an electroshocking survey of an AMD impacted stream, bug ID, water monitoring, and introduction to an array of community resource groups are a part of the workshop as well. Handouts, curriculum guides, Powerpoint presentations on AMD/AML, and fact sheets and brochures will be handed out at the workshop free of charge to all teachers who participate.



**Solomons Creek AMD Borehole & Avondale Hill AML Stripping Pit are two stops on the AMD/AML Field Tour at the Teacher Training Workshop in Luzerne County**

## **LEVERAGING FUNDS UNDER THE EPCAMR RWSI GRANT PG**

EPCAMR awarded \$45,000 in grants to 12 projects in the region. Over \$380,000 in local matching funds was generated from the projects in just one year. Nearly 50 new partnerships in the Eastern PA Coalfields supportive of abandoned mine reclamation, AMD remediation, and watershed restoration efforts were formed with the assistance of the EPCAMR Regional Coordinator. 50 Projects were funded over the last 5 years under the EPCAMR RWSI Grant PG which turned \$200,000 over 4 years into almost \$2,000,000 in local matching funds. EPCAMR is hoping to continue administering the PG for a 5<sup>th</sup> year and is waiting for a commitment from PA DEP-MRM and is working with the WPCAMR to gain support for another year of funding due to its overwhelming success and the continued growing need for assistance by groups across PA who request financial assistance from EPCAMR and WPCAMR throughout the year.



**BUILDING PARTNERSHIPS IN EASTERN PA UNDER THE EPCAMR  
REGIONAL WATERSHED SUPPORT INITIATIVE GRANT PG**



**NRCS, Columbia County Conservation District, Catawissa Creek Restoration Association,  
Wildlands Conservancy, EPCAMR, Schuylkill County Conservation District, Friends of  
the Nescopeck Creek, PA DEP BAMR, PA DEP DMO, PA DEP BWM  
Congressman Kanjorski's Office, NCAMR**



Reclaim Abandoned Mine Lands Today,  
For A Cleaner Environment Tomorrow

